

# Water & Wastewater Digest

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March/April 2003

## In This Issue ...

- ◆ Exam Schedule
- ◆ Wastewater Operator Certification Renewal
- ◆ Drinking Water Rules Update
- ◆ Fire Hydrant Operation and Maintenance Program
- ◆ Training Schedule
- ◆ Commission Meeting
- ◆ Laboratory Holidays

## Suggested Measures Under Threat Level Orange

EPA's Water Protection Task Force has compiled a list of suggestions from a number of water utilities to assist in preparations at the various Homeland Security Threat Levels. The suggestions described below pertain to the Threat Level Orange and are organized in the areas of detection, preparedness, prevention, and protection. Water utilities should consider whether the following measures are appropriate for their facilities:

### Suggested Measures

#### I. Detection:

- ◆ Confirm that county and state health officials will inform water utilities of any potential waterborne illnesses.

#### II. Preparedness:

- ◆ Post daily reminders for staff and contractors of the THREAT LEVEL ORANGE, along with a reminder of what events constitute security violations.
- ◆ Ensure employees are fully aware of the emergency response communication protocols so that appropriate notifications can be made quickly in the event of an incident. Consider the following list of organizations\* to be notified:
  - ◆ local law enforcement
  - ◆ local FBI Field Office
  - ◆ National Response Center (800-424-8802)
  - ◆ State and local emergency man-

agement organizations

- ◆ Governor's office
- ◆ EPA CID Special Agent in Charge (SAC)
- ◆ other associated system authorities (wastewater, water)
- ◆ local government officials
- ◆ state/local health, water and environmental departments\*\*
- ◆ critical care facilities
- ◆ employees
- ◆ EMS and fire department as deemed necessary
- ◆ Consider when to notify customers and what notification to issue
- ◆ Evaluate the need for organizing an emergency operations center.

\* The Public Drinking Water Program also recommends notifying critical water users (schools, daycares, hospitals, etc.)

\*\* Also the Department of Natural Resources' 24 hour response line 573-634-2436.

(Additional information is available in the Model Emergency Response Guidelines at [www.epa.gov/safewater/security/](http://www.epa.gov/safewater/security/))

#### III. Prevention:

- ◆ Discontinue tours and prohibit public access to all operational facilities.
- ◆ Consider requesting increased law enforcement surveillance, particularly of critical assets and otherwise unprotected areas.

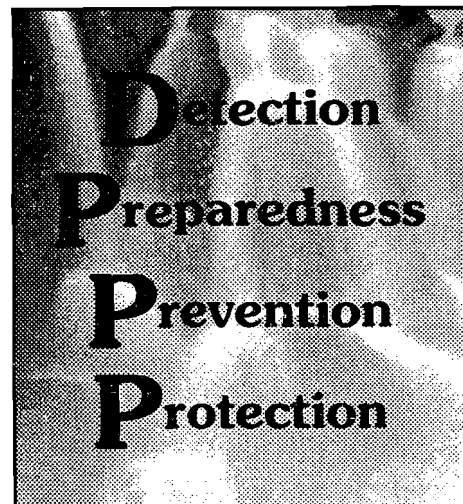
#### IV. Protection:

- ◆ Ensure water treatment/production

facility is staffed at all times

- ◆ Consider the need for additional security measures needed for surface water reservoirs.
- ◆ Limit mission critical facility access to essential employees and contractors.
- ◆ Increase security patrol activity to the maximum level sustainable and ensure tight security in the vicinity of mission critical facilities. Consider varying the schedule of security patrols.
- ◆ Prosecute intruders, trespassers, and those detained for tampering to the fullest extent possible under applicable laws.

Source: The following information was provided by the U.S. Environmental Protection Agency's Water Protection Task Force.



## Department of Natural Resources Operator Certification and Training Unit 2003 Examination Schedule

Date	Session No.	Location(s)	Filing Deadline
May 6	12	Northeast Regional Office, Macon	April 6
	13	Kansas City Regional Office, Lee's Summit	
	14	Conference Center, 1738 E. Elm, Jefferson City	
June 2	15	Powder Valley Nature Center, St. Louis	May 2
June 3	16	Conference Center, 1738 E. Elm, Jefferson City	May 3
July 1	17	Southeast Regional Office, Poplar Bluff	June 1
	18	Southwest Regional Office, Springfield	
	19	Conference Center, 1738 E. Elm, Jefferson City	
August 5	20	Northeast Regional Office, Macon	July 5
	21	Kansas City Regional Office, Lee's Summit	
	22	Conference Center, 1738 E. Elm, Jefferson City	
September 2	23	Conference Center, 1738 E. Elm, Jefferson City	August 2
September 8	24	Powder Valley Nature Center, St. Louis	August 8
October 7	25	Southeast Regional Office, Poplar Bluff	September 2
	26	Southwest Regional Office, Springfield	
	27	Conference Center, 1738 E. Elm, Jefferson City	
November 4	28	Northeast Regional Office, Macon	October 4
	29	Kansas City Regional Office, Lee's Summit	
	30	Conference Center, 1738 E. Elm, Jefferson City	
December 1	28	Powder Valley Nature Center, St. Louis	November 1
December 2	29	Conference Center, 1738 E. Elm, Jefferson City	November 2

Regular wastewater examinations are scheduled for 9:00 a.m., and the water supply examinations are scheduled for 1:00 p.m.  
**unless otherwise noted on the admission letter.**

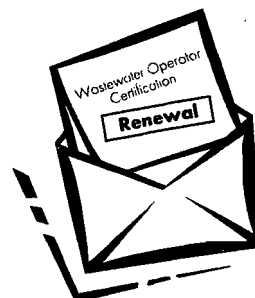
## Wastewater Operator Certification Renewal Notice

Due to the large volume of wastewater certificates being renewed June 30, 2003, the renewal notices have been mailed early. All wastewater certificates require 30.0 hours of approved renewal training. Each renewal period is a full three years long.

The Operator Certification Unit appreciates the operators who send

in their renewal applications early since this will ease the workload at the end of June in the unit and ensure that you get your renewal stickers in a timely manner.

If you have any questions about renewals, please call 1-800-361-4827 and ask for the Operator Certification Unit.



## Drinking Water Rules Update

	<b>Status of EPA Rule</b>	<b>Status of State Rule</b>
<b>Arsenic</b>	EPA final rule was published January 22, 2001 <i>Federal Register</i> (66 FR 6976). Effective date delayed until Feb. 22, 2002. Compliance date is Jan. 22, 2006. Information on EPA's rule is available online at <a href="http://www.epa.gov/safewater/arsenic.html">http://www.epa.gov/safewater/arsenic.html</a> .	Proposed amendments adopting EPA's Arsenic rule are expected to be published in the April 15, 2003 Missouri Register. Information on the state rule is available at <a href="http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm">http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm</a> .
<b>Coliform Sample Holding Time</b>	The EPA requirement for coliform sample holding time to be no more than 30 hours is found at 40 CFR 141.21(f)(3).	Proposed amendment adopting the 30-hour holding time is in interagency review and may be published in the Missouri Register in June 2003.
<b>Design Guide Revisions (Guidance Document)</b>	(Not applicable.)	Stakeholder workgroup meetings are being held to discuss issues identified during regional stakeholder meetings in 2002. The current draft of the revised guidance is available at <a href="http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm">http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm</a> .
<b>Filter Backwash Recycling Rule</b>	EPA final rule was published in the June 8, 2001, <i>Federal Register</i> (66 FR 31086). Information on EPA's rule is available online at <a href="http://www.epa.gov/safewater/mdbp.html">http://www.epa.gov/safewater/mdbp.html</a> .	The state rule became effective Nov. 30, 2002 (10 CSR 60-4.050). The final rule is available at: <a href="http://www.sos.state.mo.us/adrules/csr/current/10csr/10c60-4.pdf">http://www.sos.state.mo.us/adrules/csr/current/10csr/10c60-4.pdf</a> .
<b>Groundwater Rule</b>	EPA's final rule is under development and may be promulgated in March 2003. Information on EPA's rule is available at <a href="http://www.epa.gov/safewater/gwr.html">http://www.epa.gov/safewater/gwr.html</a> .	(EPA's rule has not been finalized.)
<b>Long-Term 1 Enhanced Surface Water Treatment Rule</b>	EPA final Long-Term 1 Enhanced Surface Water Treatment Rule was published in the January 14, 2002, <i>Federal Register</i> . Information on EPA's rule is available at <a href="http://www.epa.gov/safewater/mdbp.html">http://www.epa.gov/safewater/mdbp.html</a> .	Proposed amendments adopting LT1ESWTR are expected to be published in the April 15, 2003 Missouri Register. Information on the draft rule is available at <a href="http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm">http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm</a> .
<b>MTBE</b>	EPA is considering proposing a secondary standard for MTBE in drinking water. The schedule has not been determined. Information on MTBE is available at <a href="http://www.epa.gov/safewater/mtbe.html">http://www.epa.gov/safewater/mtbe.html</a> .	

(continued on Page 4 ...)

## Drinking Water Rules Update ...

( ... continued from Page 3)

	<b>Status of EPA Rule</b>	<b>Status of State Rule</b>
<b>Public Notification</b>	EPA final rule was published in the May 4, 2000, <i>Federal Register</i> (65 FR 25982). PN handbook for utilities published and distributed on September 15, 2000. Information on the EPA rule and handbook is available online at <a href="http://www.epa.gov/safewater/pn.html">http://www.epa.gov/safewater/pn.html</a> .	A proposed rulemaking to adopt EPA's Public Notice Rule is expected to be published in the April 15, 2003 Missouri Register. Information on the draft rule is available at <a href="http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm">http://www.dnr.state.mo.us/wpscd/pdwp/draft/Draft.htm</a> .
<b>Radionuclides</b>	EPA final rule was published in the December 7, 2000, <i>Federal Register</i> (65 FR 76708). Information on EPA's final rule is available online at <a href="http://www.epa.gov/safewater/radionuc.html">http://www.epa.gov/safewater/radionuc.html</a> .	The state rule became effective Nov. 30, 2002 (10 CSR 60-4.060). The final rule is available at: <a href="http://www.sos.state.mo.us/adrules/csr/current/10csr/10c60-4.pdf">http://www.sos.state.mo.us/adrules/csr/current/10csr/10c60-4.pdf</a> .
<b>Radon</b>	EPA's final rule is expected in fall 2003. Information on EPA's proposed rule is available online at <a href="http://www.epa.gov/safewater/radon.html">http://www.epa.gov/safewater/radon.html</a> .	(EPA's rule has not been finalized.)
<b>Six-Year Review</b>	The Safe Drinking Water Act requires EPA to review and revise, if appropriate all existing regulations every six years. The current schedule calls for preliminary decisions by April 2003 and final decisions by August 2003.	(EPA's rule has not been finalized.)
<b>Source Water Protection Loans</b>	The Safe Drinking Water Act allows up to 15% of the Drinking Water State Revolving Fund to be set aside for source water protection loans for purchase of land and easements to protect source water and for development/implementation of local source water protection petition initiatives.	Plans for development of a state rule for source water protection loans are under development.
<b>Stage 2 D/DBP Rule and Long-Term 2 ESWTR</b>	EPA's proposed rules are scheduled to be published in 2003. Information is available at <a href="http://www.epa.gov/OGWDW/mdbp.html">http://www.epa.gov/OGWDW/mdbp.html</a> .	(EPA's rule has not been finalized.)

# How to Begin a Fire Hydrant Operation and Maintenance Program

The single most important thing about having fire hydrants is that they advertise "Fire Protection!" Communities expect that at moment's notice, day or night, in any weather, the hydrant will supply sufficient water to extinguish a fire.

## A Short Hydrant History

Around the time of the American Revolution, several communities in the U.S. built water distribution systems. These early systems used main lines that workers built using bored-out logs, which they fitted together then buried. When fire fighters needed water, they uncovered the wooden line and bored a hole in the pipe wall. They used the water that collected around the pipe for fighting the fire.

When the fire fighters eventually put the fire out, they drove a tapered wooden plug into the hole in the pipe wall and marked the location of the hole with the "fire plug." Later, when cast iron became the material of choice for water lines, it became harder to bore the hole. However, water systems installed tees with wooden plugs at convenient locations and the wooden fireplug continued for several more years.

The hydrant's evolution included a standpipe that fire fighters shoved into the tee after they removed the fireplug. It conveyed water above ground to a hose connection and a ball valve, and it finally made the wooden plug obsolete. It also became the forerunner of the dry-barrel compression hydrant.

In addition, communities may use fire hydrants for things other than putting out fires. In the summer 2002 issue of *On Tap*, I addressed using of hydrants for distribution line flushing. But, the primary reason you install and maintain fire hydrants is to provide your customers with fire protection for their homes and businesses.

## Hydrant Types and How They Work

Fire hydrants come in two basic categories: wet-barrel and dry-barrel.

Manufacturers intend wet-barrel hydrants to be used only in climates where the temperature never drops below 32 degrees because they are always charged with water. Dry-barrel hydrants automatically drain after the water is turned off and are much more widely used for obvious reasons.

Each manufacturer of dry-barrel hydrants has its own method of operation, but the basics are similar. These hydrants are pressurized and drain through a main valve in the base. When the main valve is opened, the barrel is pressurized. When the main valve is closed, the barrel drains. The main valve is located below the normal frost line to protect the hydrant from freezing, allowing the dry-barrel hydrant to be used almost anywhere.

**Compression Type:** In this type of hydrant, the main valve moves jointly on a vertical axis against a seat located in the hydrant base. The valve moves against the seat to close and away from the seat to open. A vertical stem moves up or down when the operating nut is rotated. The valve may be located below the seat and open against the pressure or above the seat and open with the pressure.

Other types of dry-barrel hydrants include slide gate and toggle, which describes the mechanics that open and close them, and flush hydrants, which are installed in a pit and have nothing projecting above ground.

The method of allowing the hydrant to drain when closed is equally as important as the method of charging it. Most dry-barrel designs use weep holes, or drains, located at the bottom of the hydrant and below ground level. As the hydrant is turned on, seals are manipulated to close the weep holes, keeping water from being forced out under pressure. As the hydrant is closed, the seals are manipulated away from the weep holes, and the barrel drains.

Each hydrant manufacturer has its own design for almost every operation. The

more brands, series, and designs you have in your system, the more complicated your operation and maintenance (O&M) program will become, and the more repair parts and specialized tools you will need to stock. So keep it simple, find a style, brand, or model you like and stick with it.

## Operation and Maintenance

Like any other piece of equipment, if you don't operate and maintain your fire hydrants properly, they won't work when you need them most.

**Operation:** Under normal conditions, the water in your distribution system moves at a fairly constant rate and pressure. Opening a hydrant too quickly can cause water hammer, which is very destructive to lines and equipment. Water hammer is sort of like running headlong into a brick wall. You will immediately wish you had slowed down more gradually.

Dry-barrel hydrants should always be opened fully because the drain mechanism operates with the main valve. A partially opened hydrant can cause water to be forced out through the drains and cause erosion around the base of the hydrant.

However, tightening the caps too soon can trap water in the barrel and set up the possibility of freezing. As a matter of fact, because hydrants need a supply of air to drain properly, a good way to check the drain is to place your hand over an open nozzle after the hydrant is turned off. As the water drains it creates a vacuum that can be felt at the nozzle. So remember: never tighten the caps until the hydrant finishes draining. And never, ever operate a fire hydrant with any wrench other than the one designed for that particular hydrant.

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# Missouri Department of Natural Resources

## Approved Training Courses

Please contact the course coordinator at the phone number listed below their name for more information

<u>Course Title</u> <u>Course Number</u>	<u>Course Location</u> <u>Sponsored By</u>	<u>Course Coordinator</u> <u>Coord. Phone No.</u>	<u>First/Last Day</u>	<u>Number of Days</u>	<u>Renewal Credit Hours</u> <u>Drinking--Dist--WasteW--CAFC</u>				
Lagoons 03-02-100	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/10/03 03/10/03	1	2.0	0.0	6.0	6.0	
Advanced W&WW Microbiology 03-02-114	Marshall MWWC	Sandi Miller 573-761-0376	03/11/03 03/11/03	1	6.5	6.5	6.5	0.0	
Intro Wastewater Lab - Part A 03-01-020	Lee's Summit MoDNR/OAC	Lorene Lindsay 816-797-7753	03/11/03 03/19/03	4	8.0	0.0	30.0	6.0	
Irrigation, Overland Flow & Wet 03-02-099	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/11/03 03/11/03	1	1.5	0.0	6.0	3.5	
Pump & Motor Maintenance 03-02-163	Macon ERC	Autumn Sweet 800-848-8726	03/11/03 03/12/03	2	15.0	15.0	15.0	15.0	
Show-Me Ratemaker Workshop 03-05-132	Springfield MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	03/13/03 03/13/03	1	4.5	4.5	4.5	0.0	
Water Storage Teleconference 03-04-239	Cape Girardeau MO Sec AWWA	Karen Kelly 816-325-7698	03/13/03 03/13/03	1	3.0	3.0	0.0	0.0	
Water Storage Teleconference 03-02-240	Chillicothe MO Sec AWWA	Karen Kelly 816-325-7698	03/13/03 03/13/03	1	3.0	3.0	0.0	0.0	
Water Storage Teleconference 03-01-241	Kansas City MO Sec AWWA	Karen Kelly 816-325-7698	03/13/03 03/13/03	1	3.0	3.0	0.0	0.0	
Water Storage Teleconference 03-05-242	Springfield MO Sec AWWA	Karen Kelly 816-325-7698	03/13/03 03/13/03	1	3.0	3.0	0.0	0.0	
Water Storage Teleconference 03-06-243	St Peters MO Sec AWWA	Karen Kelly 816-325-7698	03/13/03 03/13/03	1	3.0	3.0	0.0	0.0	
AC/DC Trouble Shooting 03-06-053	Bridgeton Control Tech	Jaime McCorkell 314-739-6050	03/14/03 03/14/03	1	6.5	6.5	6.5	6.5	
1 Day Confined Space 03-02-165	Chillicothe ERC	Autumn Sweet 800-848-8726	03/18/03 03/18/03	1	7.5	7.5	7.5	7.5	
MRWA Annual Conference 03-05-146	Springfield MRWA	Randy Norden 573-657-5533	03/18/03 03/20/03	3	17.5	17.5	17.5	0.0	
MRWA Annual Confr. Day 1 03-05-143	Springfield MRWA	Randy Norden 573-657-5533	03/18/03 03/18/03	1	6.5	6.5	6.5	6.5	
Pump & Motor Maintenance 03-05-164	Branson ERC	Autumn Sweet 800-848-8726	03/18/03 03/19/03	2	15.0	15.0	15.0	15.0	
MRWA Annual Confr. Day 2 03-05-144	Springfield MRWA	Randy Norden 573-657-5533	03/19/03 03/19/03	1	5.5	5.5	5.5	0.0	
Disinfection 03-01-088	Kansas City MARC	John Staples 816-474-4240	03/20/03 03/20/03	1	6.0	6.0	6.0	4.0	
Mathematics 03-04-206	Cape Girardeau Cape Girardeau	Jim Baylor 573-334-5150	03/20/03 03/20/03	1	3.5	3.5	3.5	0.0	
MRWA Annual Confr. Day 3 03-05-145	Springfield MRWA	Randy Norden 573-657-5533	03/20/03 03/20/03	1	5.5	5.5	5.5	0.0	
Utility System Safety 03-01-140	Higginsville MWWC	Sandi Miller 573-761-0376	03/20/03 03/20/03	1	6.0	6.0	6.0	0.0	
Sludge Handling 03-04-204	Cape Girardeau Cape Girardeau	Jim Baylor 573-334-5150	03/21/03 03/21/03	1	0.0	0.0	2.0	0.0	
Pre-Conference Workshop MEWA 03-03-048	Tan-Tar-A MEWA	Pam Schweitzer 636-561-9486	03/23/03 03/23/03	1	5.5	4.5	5.5	0.0	
MWEA & MoAWWA Mtg 03-03-244	Osage Beach MWEA&AWWA	Pam Schweitzer 361-561-9486	03/24/03 03/26/03	3	12.0	12.0	12.0	0.0	
On Site Sewage Systems 03-02-209	Kirksville CCWWC	Elizabeth Grove 573-672-3221	03/24/03 03/24/03	1	0.0	0.0	4.5	0.0	
Basic Math 03-01-245	Hamilton MoDNR/KCRO	David Williams 816-622-7044	03/25/03 03/25/03	1	6.0	6.0	6.0	0.0	
Competent Person Training 03-06-238	Fenton United Rentals	Butch Kory 314-729-0003	03/25/03 03/25/03	1	7.0	7.0	7.0	7.0	
Certification Math Review 03-05-166	Neosho ERC	Autumn Sweet 800-848-8726	03/27/03 03/27/03	1	6.0	6.0	6.0	6.0	
Competent Person Training 03-06-237	Fenton United Rentals	Butch Kory 314-729-0003	03/27/03 03/27/03	1	7.0	7.0	7.0	7.0	
Basic Math 03-02-101	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/28/03 03/28/03	1	6.0	6.0	6.0	6.0	
Applied Wastewater Math 03-02-102	Macon MoDNR/NERO	Keith Phipps 660-385-2129	03/31/03 03/31/03	1	6.0	6.0	6.0	6.0	

# Missouri Department of Natural Resources

## Approved Training Courses

Please contact the course coordinator at the phone number listed below their name for more information

Course Title Course Number	Course Location Sponsored By	Course Coordinator Coord. Phone No.	First/Last Day	Number of Days	Renewal Credit Hours				
					Drinking--	Dist--	WasteW--	CAFO	
Intro Wastewater Lab - Part B 03-05-012	Branson MoDNR/OAC	Lorene Lindsay 816-797-7753	04/01/03 04/09/03	4	4.0	0.0	30.0	2.0	
Water Treatment Review 03-05-047	Willard MWWC	Sandi Miller 573-761-0376	04/01/03 04/01/03	1	5.5	5.5	4.5	0.0	
C&D Wastewater Entry Level 03-02-103	Macon MoDNR/NERO	Keith Phipps 660-385-2129	04/02/03 05/02/03	10	21.0	8.5	60.0	6.0	
Mathematics 03-04-207	Cape Girardeau Cape Girardeau	Jim Baylor 573-334-5150	04/03/03 04/03/03	1	3.5	3.5	3.5	0.0	
NW SEC MWWC Annual Mtg 03-01-156	St Joseph MWWC	David Williams 816-622-7094	04/03/03 04/23/03	1	5.5	5.0	4.0	0.0	
Well & Pump Seminar 03-06-190	St. Charles MWWC	Sandi Miller 573-761-0376	04/03/03 04/03/03	1	5.5	5.5	5.5	0.0	
Sludge Handling 03-04-205	Cape Girardeau Cape Girardeau	Jim Baylor 573-334-5150	04/04/03 04/04/03	1	0.0	0.0	2.0	0.0	
Backflow Prevention 03-02-167	Macon ERC	Autumn Sweet 800-848-8726	04/08/03 04/10/03	3	22.5	22.5	22.5	22.5	
Lime Use in Water/Wastewater 03-04-038	Ste. Genevieve MWWC	Sandi Miller 573-761-0376	04/08/03 04/08/03	1	6.0	6.0	6.0	0.0	
NE Sec MWWC 03-04-225	Paris NE Sec MWWC	Ed Samel 660-385-3849	04/08/03 04/08/03	1	5.5	4.0	3.0	0.0	
Certification Prep Seminar 03-01-217	Grain Valley MWWC	Sandi Miller 573-761-0376	04/09/03 06/25/03	12	30.0	30.0	65.0	0.0	
Environmental Mgmt. Institute 03-03-133	Mexico MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	04/09/03 04/10/03	2	8.0	7.0	7.0	0.0	
Math 03-01-218	Grain Valley MWWC	Sandi Miller 573-761-0376	04/09/03 04/16/03	2	13.0	13.0	13.0	0.0	
Chem Coagulation/Flocculation 03-01-089	Kansas City MARC	John Staples 816-474-4240	04/10/03 04/10/03	1	6.0	1.0	3.0	0.0	
Land Application of Sludge 03-01-097	Lee's Summit MoDNR/NERO	Keith Phipps 660-385-2129	04/14/03 04/14/03	1	2.0	0.0	6.0	2.0	
Land Application of Sludge 03-01-098	Lee's Summit MoDNR/NERO	Keith Phipps 660-385-2129	04/15/03 04/15/03	1	2.0	0.0	6.0	2.0	
Entry Level Wastewater Trmt 03-05-008	Ozark MoDNR/OAC	Lorene Lindsay 816-797-7753	04/16/03 05/15/03	10	14.0	12.0	65.0	8.0	
SE Sec MWWC Annual Mtg. 03-04-182	Cape Girardeau SE SEC MWWC	Dennis Hale 573-334-5150	04/16/03 04/16/03	1	3.0	2.5	3.5	0.0	
Filters 03-03-229	Columbia MPUA	Peggy King 573-445-3279	04/17/03 04/17/03	1	7.0	7.0	7.0	0.0	
MW SEC MWWC 03-03-268	Columbia MW SEC MWWC	Steve Blumer 573-445-3517	04/17/03 01/17/03	1	5.5	5.5	4.5	0.0	
Intro Wastewater Lab - Part B 03-04-010	Cape Girardeau MoDNR/OAC	Lorene Lindsay 816-797-7753	04/21/03 04/25/03	4	4.0	0.0	30.0	2.0	
Basic Electricity 03-01-168	Warrensburg ERC	Autumn Sweet 800-848-8726	04/22/03 04/23/03	2	13.0	13.0	13.0	13.0	
Programmable Logic Controllers 03-06-127	KC KS NTT	Linda Barrier 800-922-2820	04/22/03 01/24/03	3	21.0	21.0	21.0	0.0	
Spring Water Class 03-03-110	Jeff City MoDNR/JCRO	Tim Campbell 573-751-2729	04/22/03 06/17/03	9	45.0	34.0	21.0	0.0	
Electrical 03-01-219	Grain Valley MWWC	Sandi Miller 573-761-0376	04/23/03 04/30/03	2	13.0	13.0	13.0	0.0	
MWWC Annual Section Meeting 03-06-226	St Peters MWWC	Joe Radtke 636-926-9222	04/23/03 04/23/03	1	5.5	5.5	5.5	0.0	
Bloodborne Pathogens 03-01-090	Kansas City MARC	John Staples 816-474-4240	04/24/03 04/24/03	1	4.0	4.0	4.0	4.0	
A&B Wastewater Calculations 03-02-200	Thomas Hill NW Sec MWWC	Laverne Heaton 660-332-6192	05/01/03 05/01/03	1	6.5	6.5	6.5	0.0	
Certification Math Review 03-05-169	Neosho ERC	Autumn Sweet 800-848-8726	05/01/03 05/01/03	1	6.0	6.0	6.0	6.0	
Backflow Prevention 03-06-171	Sullivan ERC	Autumn Sweet 800-848-8726	05/06/03 05/08/03	3	22.5	22.5	22.5	22.5	
Basic Electricity 03-06-170	Farmington ERC	Autumn Sweet 800-848-8726	05/06/03 05/07/03	2	13.0	13.0	13.0	13.0	

# Missouri Department of Natural Resources

## Approved Training Courses

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<u>Course Title</u> <u>Course Number</u>	<u>Course Location</u> <u>Sponsored By</u>	<u>Course Coordinator</u> <u>Coord. Phone No.</u>	<u>First/Last Day</u>	<u>Number</u> <u>of Days</u>	<u>Renewal</u> <u>Credit Hours</u>			
					<u>Drinking--</u>	<u>Dist--</u>	<u>WasteW--</u>	<u>CAFR</u>
Programmable Logic Controllers 03-01-149	Kansas City NTT	Marta Horton 303-957-4397	05/06/03 05/08/03	3	21.0	21.0	21.0	0.0
Pumping 03-01-220	Grain Valley MWWC	Sandi Miller 573-761-0376	05/07/03 05/14/03	2	13.0	13.0	13.0	0.0
Wastewater Lab 03-02-104	Macon MoDNR/NERO	Keith Phipps 660-385-2129	05/12/03 05/21/03	5	9.0	7.0	30.0	3.0
Backflow Prevention 03-05-172	Neosho ERC	Autumn Sweet 800-848-8726	05/13/03 05/15/03	3	22.5	22.5	22.5	22.5
Intro Wastewater Lab - Part A 03-05-018	Houston MoDNR/OAC	Lorene Lindsay 816-797-7753	05/13/03 05/16/03	4	8.0	0.0	30.0	6.0
Trenching Shoring 03-01-091	Kansas City MARC	John Staples 816-474-4240	05/14/03 05/14/03	1	8.0	8.0	8.0	8.0
Intro Wastewater Lab - Part B 03-03-014	Lake Ozark MoDNR/OAC	Lorene Lindsay 816-797-7753	05/20/03 05/28/03	4	4.0	0.0	30.0	2.0
Environmental Mgmt. Institute 03-05-134	Lebanon MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	05/21/03 05/22/03	2	8.0	7.0	7.0	0.0
Wastewater Treatment 03-01-221	Grain Valley MWWC	Sandi Miller 573-761-0376	05/21/03 06/18/03	5	0.0	0.0	26.0	0.0
Entry Level Wastewater Trmt 03-01-006	Gallatin MoDNR/OAC	Lorene Lindsay 816-797-7753	05/28/03 06/26/03	10	14.0	12.0	65.0	8.0
Lift Stations 03-02-105	Macon MoDNR/NERO	Keith Phipps 660-385-2129	05/28/03 05/28/03	1	2.5	2.5	6.0	6.0
Lagoons 03-02-106	Macon MoDNR/NERO	Keith Phipps 660-385-2129	05/30/03 05/30/03	1	2.0	0.0	6.0	6.0
Motor Starters, Contr Devices 03-06-050	Bridgeton Control Tech	Jaime McCorkell 314-739-6050	05/30/03 05/30/03	1	6.5	6.5	6.5	6.5
National Electrical Code 2002 03-06-152	St Louis NTT	Marta Horton 303-957-4397	06/02/03 06/04/03	3	21.0	21.0	21.0	0.0
NEC 2002&Grounding&Elec Sys 03-06-150	St Louis NTT	Marta Horton 303-957-4397	06/02/03 06/06/03	5	35.0	35.0	35.0	0.0
Water Trmt. Short School 03-05-173	Neosho ERC	Autumn Sweet 800-848-8726	06/02/03 06/06/03	5	35.0	35.0	11.5	0.0
A&B Wastewater Advanced 03-02-107	Macon MoDNR/NERO	Keith Phipps 660-385-2129	06/04/03 06/27/03	10	20.0	20.0	58.0	0.0
Grnd&Bonding/Bldg Elec Sys 03-06-154	St Louis NTT	Marta Horton 303-957-4397	06/05/03 06/06/03	2	14.0	14.0	14.0	0.0
Chemical Safety 03-01-092	Kansas City MARC	John Staples 816-474-4240	06/06/03 06/06/03	1	4.0	4.0	4.0	4.0
HVAC/Pumping Motor Contr 03-06-054	Bridgeton Control Tech	Jaime McCorkell 314-739-6050	06/06/03 06/06/03	1	6.5	6.5	6.5	6.5
Distribution Systems 03-05-180	Monett ERC	Autumn Sweet 800-848-8726	06/09/03 06/10/03	2	13.0	13.0	6.0	0.0
Backflow Prevention 03-01-174	Kansas City ERC	Autumn Sweet 800-848-8726	06/10/03 06/12/03	3	22.5	22.5	22.5	22.5
Intro Wastewater Lab - Part B 03-01-013	Grain Valley MoDNR/OAC	Lorene Lindsay 816-797-7753	06/10/03 06/18/03	4	4.0	0.0	30.0	2.0
Activated Sludge 03-02-108	Macon MoDNR/NERO	Keith Phipps 660-385-2129	06/11/03 06/13/03	2	0.0	0.0	12.0	0.0
Distribution Systems 03-05-181	Nevada ERC	Autumn Sweet 800-848-8726	06/11/03 06/12/03	2	13.0	13.0	6.0	0.0
Drinking Water Laboratory 03-01-093	Kansas City MARC	John Staples 816-474-4240	06/12/03 06/12/03	1	6.0	6.0	1.5	1.5
Operator Training Seminar 03-03-211	Cuba MWWC	Sandi Miller 573-761-0376	06/12/03 06/12/03	1	6.5	6.5	6.5	0.0
Wastewater Trmt. Short School 03-05-176	Neosho ERC	Autumn Sweet 800-848-8726	06/16/03 06/20/03	5	11.5	11.5	35.0	0.0
Pump & Motor Maintenance 03-06-175	Farmington ERC	Autumn Sweet 800-848-8726	06/17/03 06/18/03	2	15.0	15.0	15.0	15.0
The Tracker 03-04-198	Fredricktown MWWC	Sandi Miller 573-761-0376	06/19/03 06/19/03	1	6.5	6.5	6.5	0.0
Wastewater Options/Small Sys 03-01-094	Kansas City MARC	John Staples 816-474-4240	06/19/03 06/19/03	1	0.0	0.0	6.0	0.0



# Missouri Department of Natural Resources

## Approved Training Courses

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Course Title Course Number	Course Location Sponsored By	Course Coordinator Coord. Phone No.	First/Last Day	Number of Days	Renewal Credit Hours			
					Drinking--	Dist--	WasteW--	CAFO
Backflow Certification 03-04-177	Poplar Bluff ERC	Autumn Sweet 800-848-8726	06/23/03 06/27/03	5	28.0	28.0	28.0	28.0
National Electrical Code 2002 03-01-153	Kansas City NTT	Marta Horton 303-957-4397	06/23/03 06/25/03	3	21.0	21.0	21.0	0.0
NEC 2002&Grounding&Elec Sys 03-01-151	Kansas City NTT	Marta Horton 303-957-4397	06/23/03 06/27/03	5	35.0	35.0	35.0	0.0
Water Lab 03-05-178	Neosho ERC	Autumn Sweet 800-848-8726	06/24/03 06/25/03	2	13.0	10.0	1.0	0.0
NPDES Permits & DMRs 03-02-109	Macon MoDNR/NERO	Keith Phipps 660-385-2129	06/25/03 06/25/03	1	0.0	0.0	6.0	0.0
Certification Math Review 03-05-179	Neosho ERC	Autumn Sweet 800-848-8726	06/26/03 06/26/03	1	6.0	6.0	6.0	6.0
Gmd&Bonding/Bldg Elec Sys 03-01-155	Kansas City NTT	Marta Horton 303-957-4397	06/26/03 06/27/03	2	14.0	14.0	14.0	0.0
Intro Wastewater Lab - Part A 03-06-016	Washington MoDNR/OAC	Lorene Lindsay 816-797-7753	07/08/03 07/16/03	4	8.0	0.0	30.0	6.0
Entry Level Wastewater Trmt 03-05-009	Nevada MoDNR/OAC	Lorene Lindsay 816-797-7753	07/09/03 08/07/03	10	14.0	12.0	65.0	8.0
Certification Prep Seminar 03-04-212	West Plains MWWC	Sandi Miller 573-761-0376	07/16/03 10/08/03	12	30.0	30.0	65.0	0.0
Math 03-04-213	West Plains MWWC	Sandi Miller 573-761-0376	07/16/03 07/23/03	2	13.0	13.0	13.0	13.0
Electrical 03-04-214	West Plains MWWC	Sandi Miller 573-761-0376	07/30/03 08/06/03	2	13.0	13.0	13.0	13.0
Pumping 03-04-215	West Plains MWWC	Sandi Miller 573-761-0376	08/13/03 08/20/03	2	13.0	13.0	13.0	13.0
Wastewater Treatment 03-04-216	West Plains MWWC	Sandi Miller 573-761-0376	08/27/03 10/01/03	5	0.0	0.0	26.0	0.0
Motor Starters, Contr Devices 03-06-051	Bridgeton Control Tech	Jaime McCorkell 314-739-6050	09/05/03 09/05/03	1	6.5	6.5	6.5	6.5
Electrical PM 03-06-055	Bridgeton Control Tech	Jaime McCorkell 314-739-6050	09/12/03 09/12/03	1	6.5	6.5	6.5	6.5
Environmental Mgmt. Institute 03-06-135	Farmington MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	09/17/03 09/18/03	2	8.0	7.0	7.0	0.0
Environmental Mgmt. Institute 03-02-136	Chillicothe MoDNR/OAC-EAO	Ellen Harrel 573-526-6627	10/22/03 10/23/03	2	8.0	7.0	7.0	0.0

## Safe Drinking Water Commission Holds Public Meeting on March 27

The Safe Drinking Water Commission will meet Thursday, March 27, at 10 a.m. in Jefferson City. The meeting will be held at the DNR Conference Center, 1738 East Elm Street, Jefferson City. Tentative agenda items include: the Drinking Water State Revolving Fund Intended Use Plan; the draft Design Guide for Community

Water Systems; and state and federal drinking water legislation and regulations.

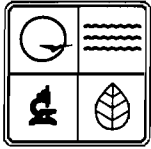
For a copy of the agenda or to make arrangements for special services to attend the meeting, please contact Ms. Cynthia Bowser at 1-800-361-4827 or 573-751-5331 or nrbowsc@dnr.state.mo.us.

## Laboratory Holidays

The state health laboratory will be closed on the following state holidays:

May 8, 2003, Truman Day  
May 26, 2003, Memorial Day





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#### MAIL TO:

Operator Certification and Training Unit  
P.O. Box 176  
Jefferson City, MO 65102

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